

It has seemed best not to enter into a detailed discussion of the foregoing specimens at this time, but simply to publish them with the hope that observers who may run across similar specimens will kindly communicate with the writer, who intends publishing a more elaborate essay on *Liriodendron* in the near future.

## EXPLANATION OF PLATES

Plate 1. Leaves of *Liriodendron Tulipifera* L., from mature trees at Passaic, N. J., all  $\frac{1}{4}$  natural size except Fig. 7.

Figs. 1, 2, 4. Small, primitive-shaped leaves.

Figs. 3, 6, 11, 12. Leaves with winged petiole.

Figs. 5, 9, 10. Flower bud-scale.

Fig. 7. Enlarged detail of petiole and cross section.

Fig. 8. Acutely bilobate leaf with winged petiole.

Plate 2. Leaves of *Liriodendron Tulipifera* L., from mature trees at Passaic, N. J., all  $\frac{2}{3}$  natural size.

Fig. 13. Posterior aspect of foliar flower-bud-scale.

Fig. 14. Lateral view of a similar somewhat older specimen.

Fig. 15. Posterior view of same specimen.

Fig. 16. Lateral view of a bud-scale bearing a large, more normally shaped blade and petiole.

PASSAIC, N. J.

## TWO SPECIES OF CHAMAELIRIUM

BY JOHN K. SMALL

More than ten years ago Dr. Britton collected a fruiting plant of a *Chamaelirium* in the mountains of West Virginia. This specimen was seen to be characteristic, particularly on account of its large long-pedicelled capsules, but for some time nothing else in our collections appeared to correspond to it very closely. However, several years since, specimens from a number of localities have been obtained which have characters similar to those possessed by the West Virginia plant and which together with it doubtless represent an undescribed species. Therefore, the genus *Chamaelirium* becomes a genus of two species, instead of being monotypic as heretofore considered.

## KEY TO THE SPECIES

Capsules oblong or ovoid-oblong, 7-10 mm. long.

1. *C. luteum*.

Capsules obovoid or oblong-obovoid, 12-14 mm. long.

2. *C. obovale*.

✓ I. CHAMAELIRIUM LUTEUM (L.) A. Gray. Stems 2-12 dm. tall, those of staminate plants shorter than those of the pistillate,

simple: leaves mainly basal; blades spatulate or oblong-spatulate, 5–20 cm. long, tapering into broad petioles; stem-leaves usually oblanceolate to lanceolate or linear, few: racemes spike-like; staminate usually continuous, 5–20 cm. long, the tip nodding; pistillate stiff, interrupted, longer than the staminate; pedicels 1–5 mm. long: perianth (staminate) white; sepals and petals narrowly linear: capsules ovoid-oblong or oblong, 7–10 mm. long.

In open woods, Massachusetts to Ontario, Michigan, Florida and Arkansas. Spring and summer. I cite the following fruiting specimens:

NORTH CAROLINA: Roan Mountain, September 9, 1885, *Dr. and Mrs. Britton*.

TENNESSEE: Jackson, May, 1893, *Mr. S. M. Bain*, no. 173.

GEORGIA: Macon, *Dr. Boykin*.

FLORIDA: Apalachicola, *Dr. Chapman*.

2. **Chamaelirium obovale**. Stems 6–11 dm. tall, leafy at the base and to near the middle, somewhat zigzag: leaves various; basal with spatulate blades; cauline shorter, 4–15 cm. long, oblanceolate to lanceolate or linear, acute or acuminate, erect or ascending: flowers manifestly larger than those of *C. luteum*: capsules obovoid or oblong-obovoid, 12–14 mm. long, on stout club-shaped pedicels usually fully as long as the capsules or slightly shorter.

In open woods, New York to West Virginia, North Carolina and Alabama. Spring. I cite the following fruiting specimens:

NEW YORK: Apalachin, *Mr. F. E. Fenno*, no. 396.

NEW JERSEY: Sneden's Landing, on the Palisades, 1862, *Dr. Torrey*.

WEST VIRGINIA: White Sulphur Springs, August 19, 1890, *Dr. Britton* (type); Aurora, August and September, *Mr. and Mrs. E. E. Steele*.

ALABAMA: Auburn, August 11, 1897, *Messrs. Earle & Baker*.

*Chamaelirium obovale* seems to be rather characteristically an Alleghanian species and, as far as we know, approaches the sea coast only near New York City. On the other hand *C. luteum* is most common in the middle and low country of the southern states.

## SHORTER NOTES

THE STORING OF SEEDS BY SQUIRRELS.—At Chilson Lake, Essex county, N. Y., on June 15th, I collected a mass of white pine seedlings from a hollow at the base of a pine tree, which convinced me that a "chipmunk" had stored them there for